

Fig. 1: Block diagram of a vending machine of the mechanical type

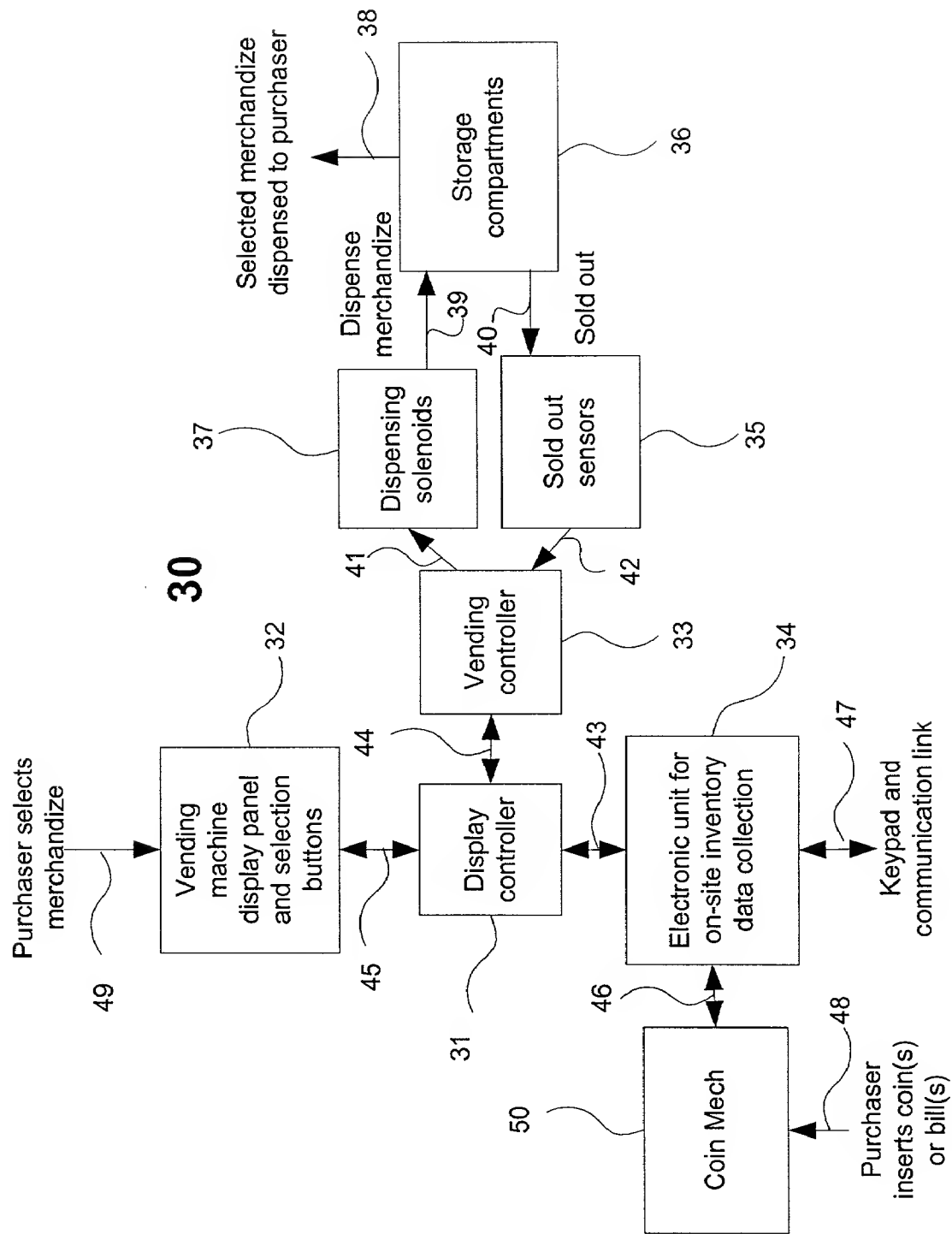


Fig. 2: Block diagram of a vending machine of the electronic type



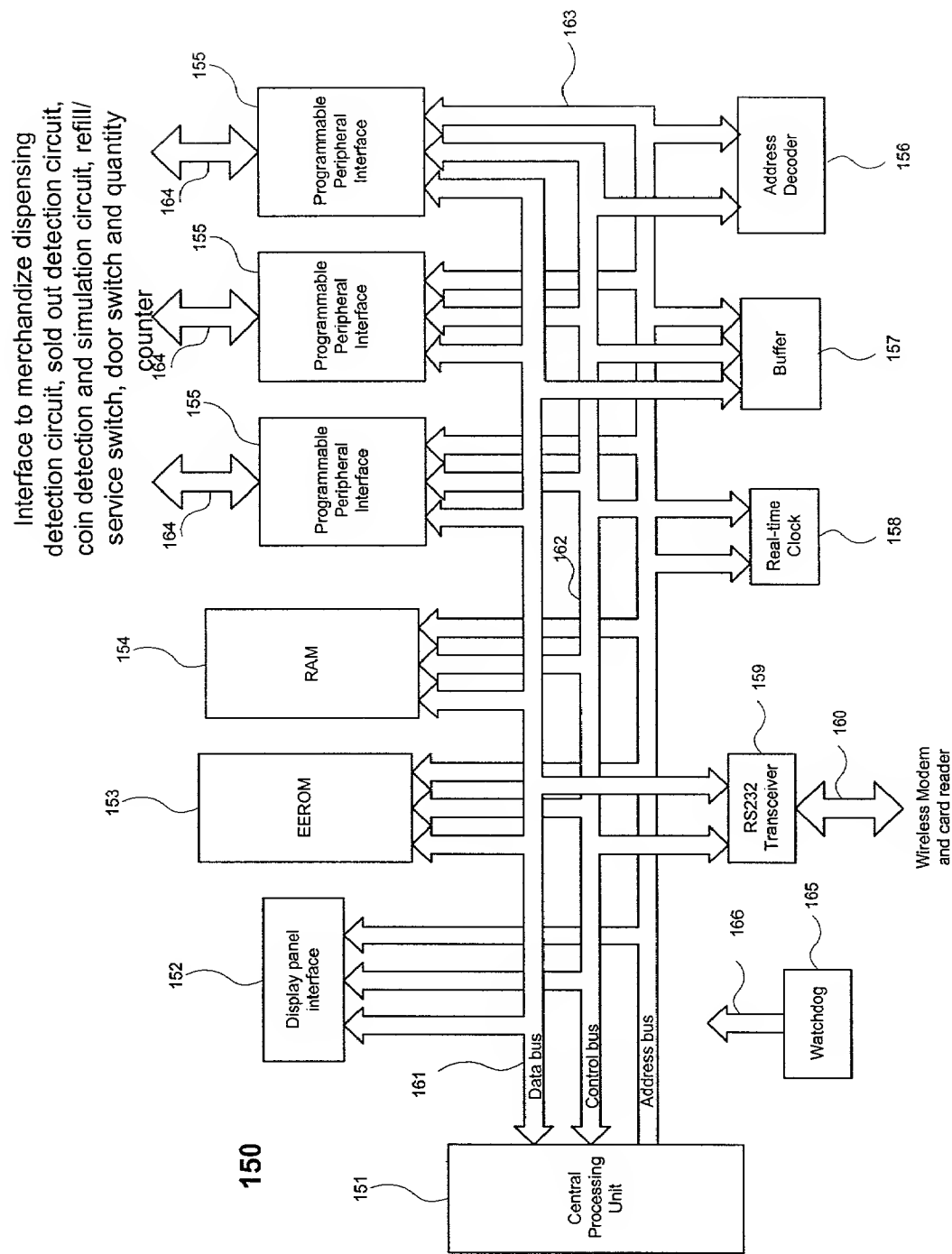


Fig. 4: Schematic diagram of the micro-controller circuit



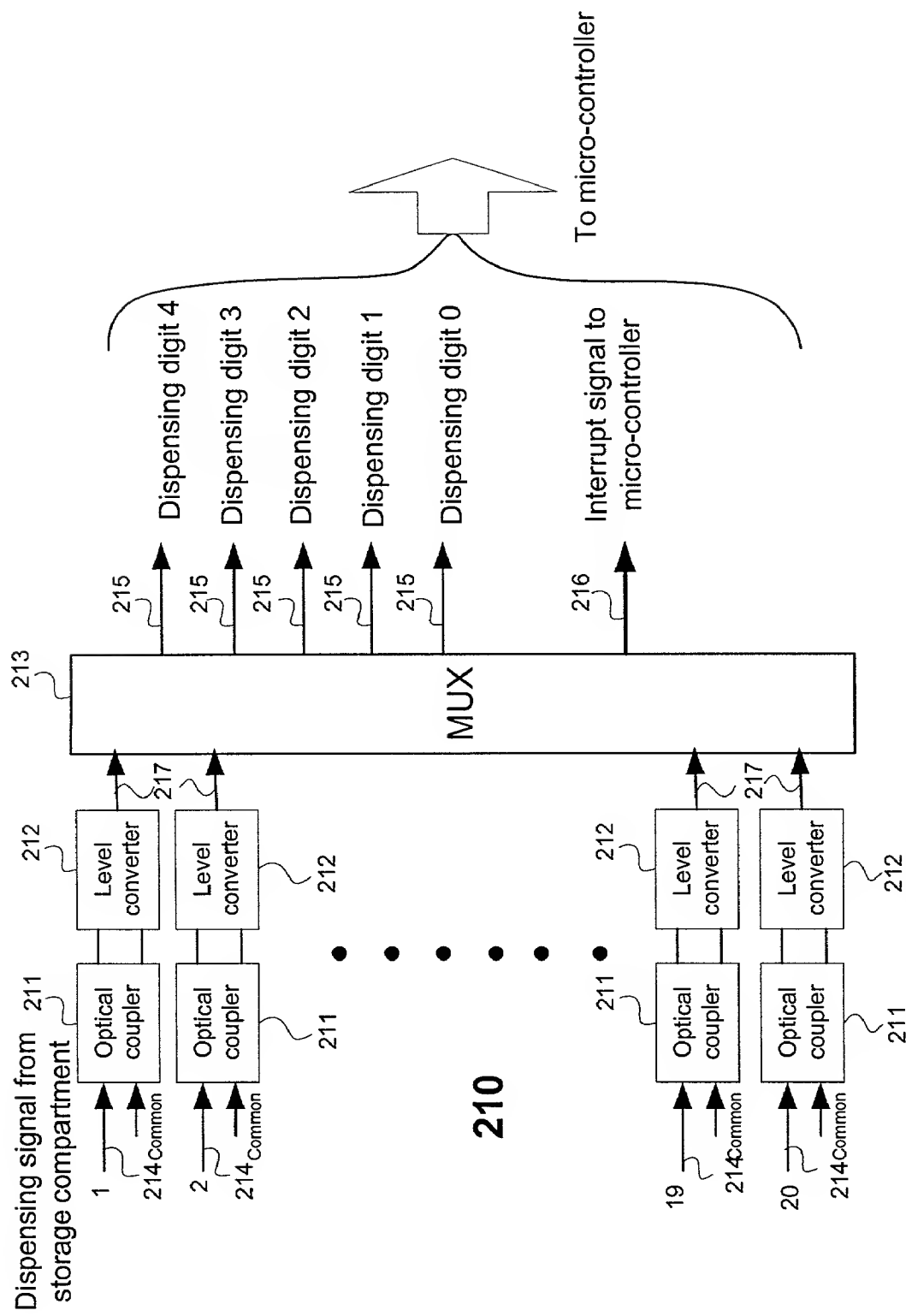


Fig. 6: Schematic diagram of the merchandize dispensing interface circuit

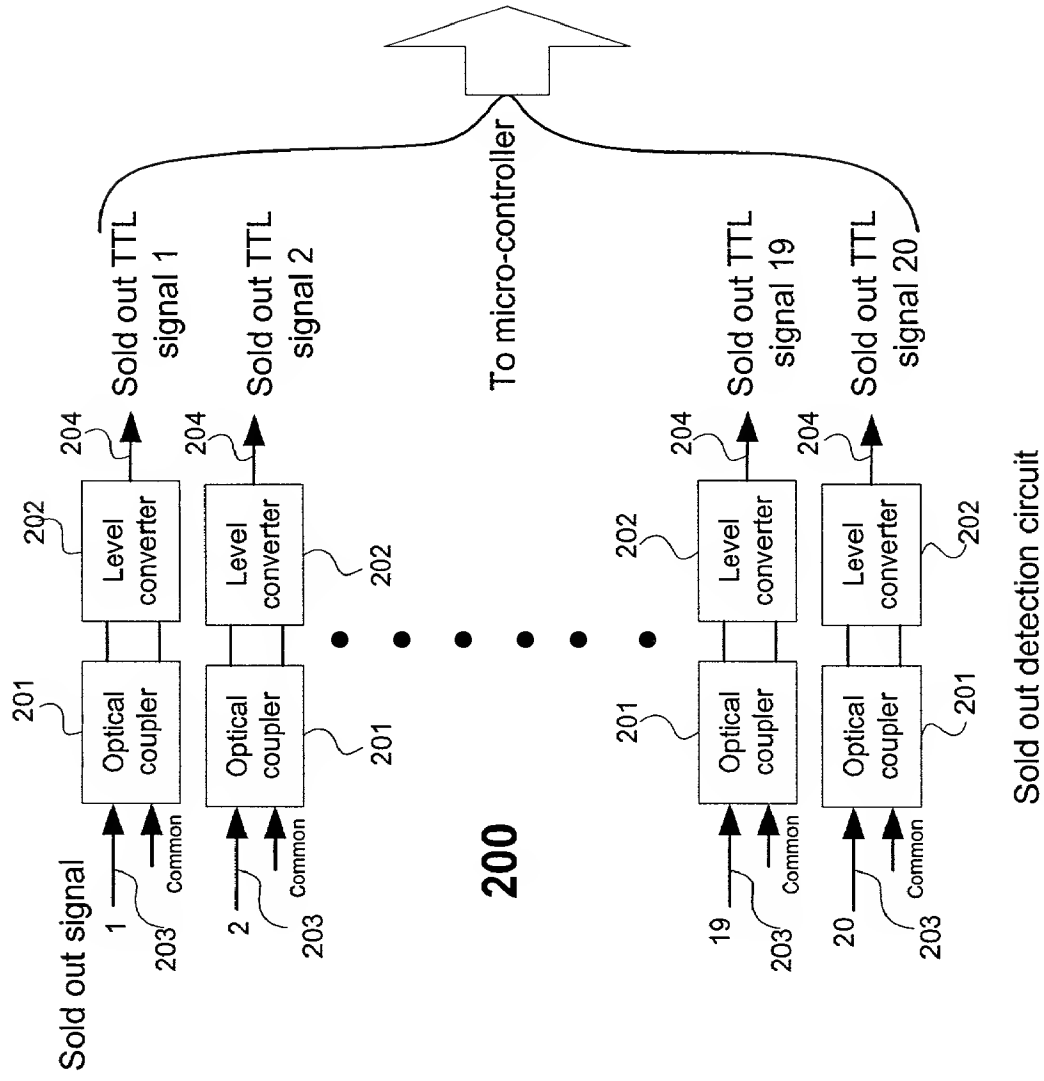


Fig. 7: Schematic diagram of the sold out interface circuit

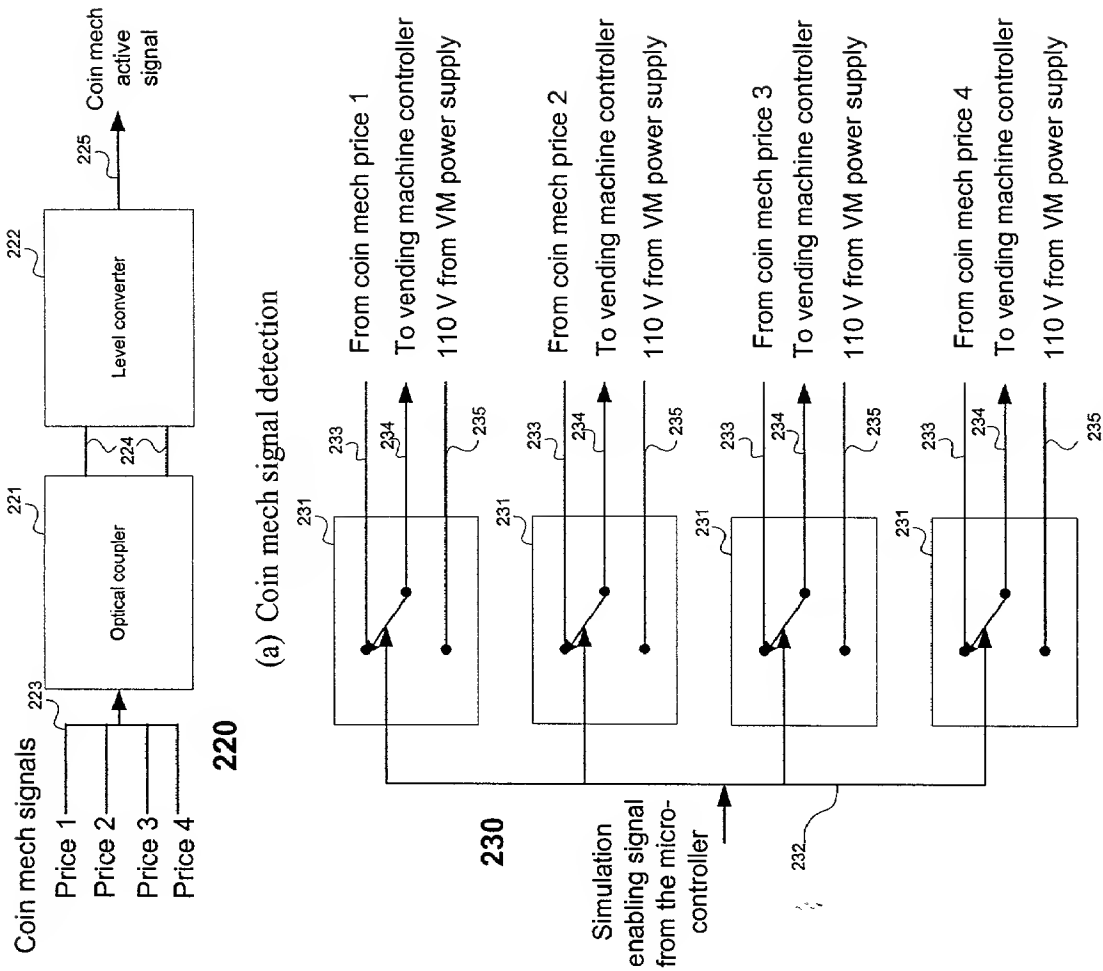


Fig. 8: Schematic diagram of the coin detection and simulation circuit



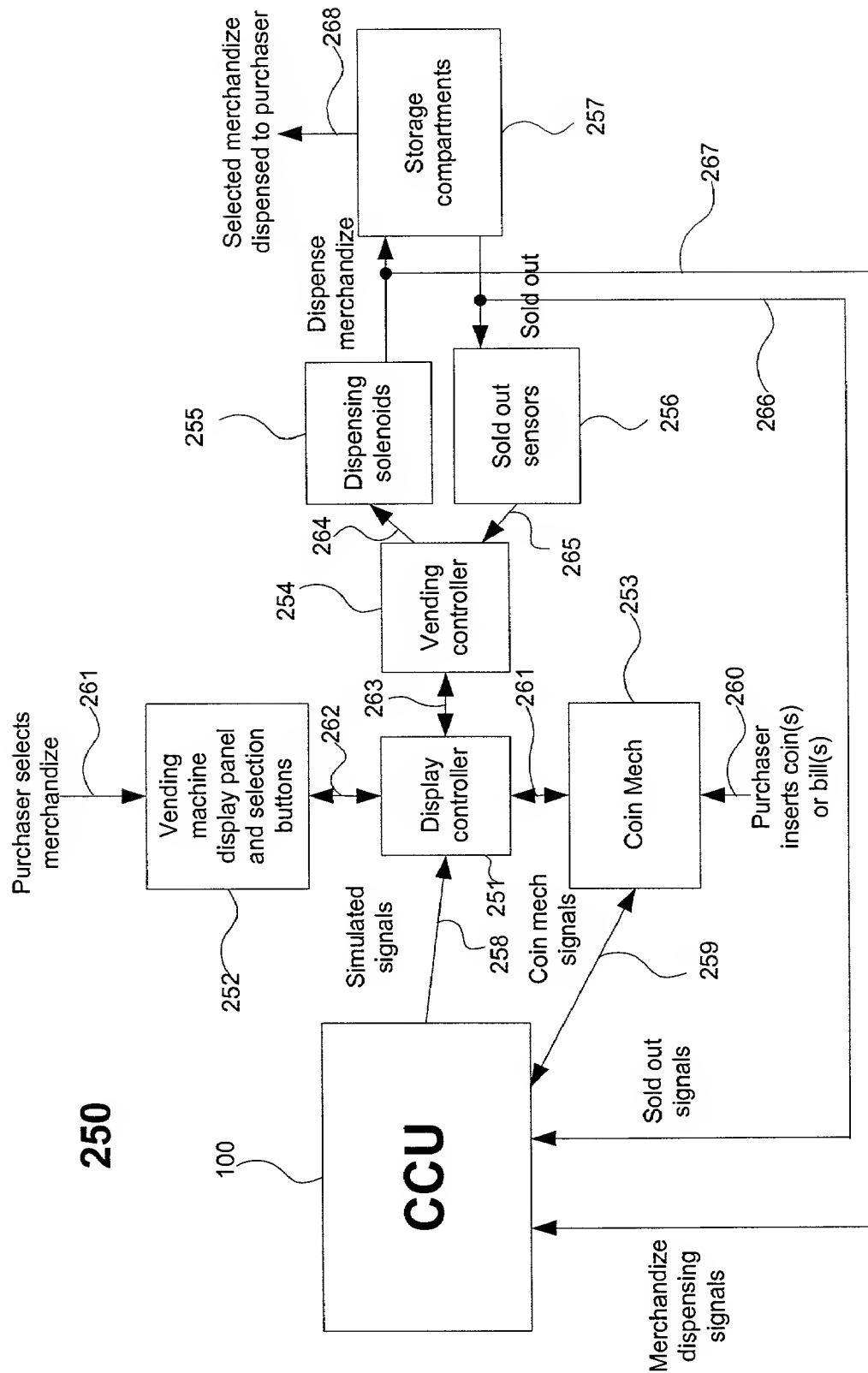
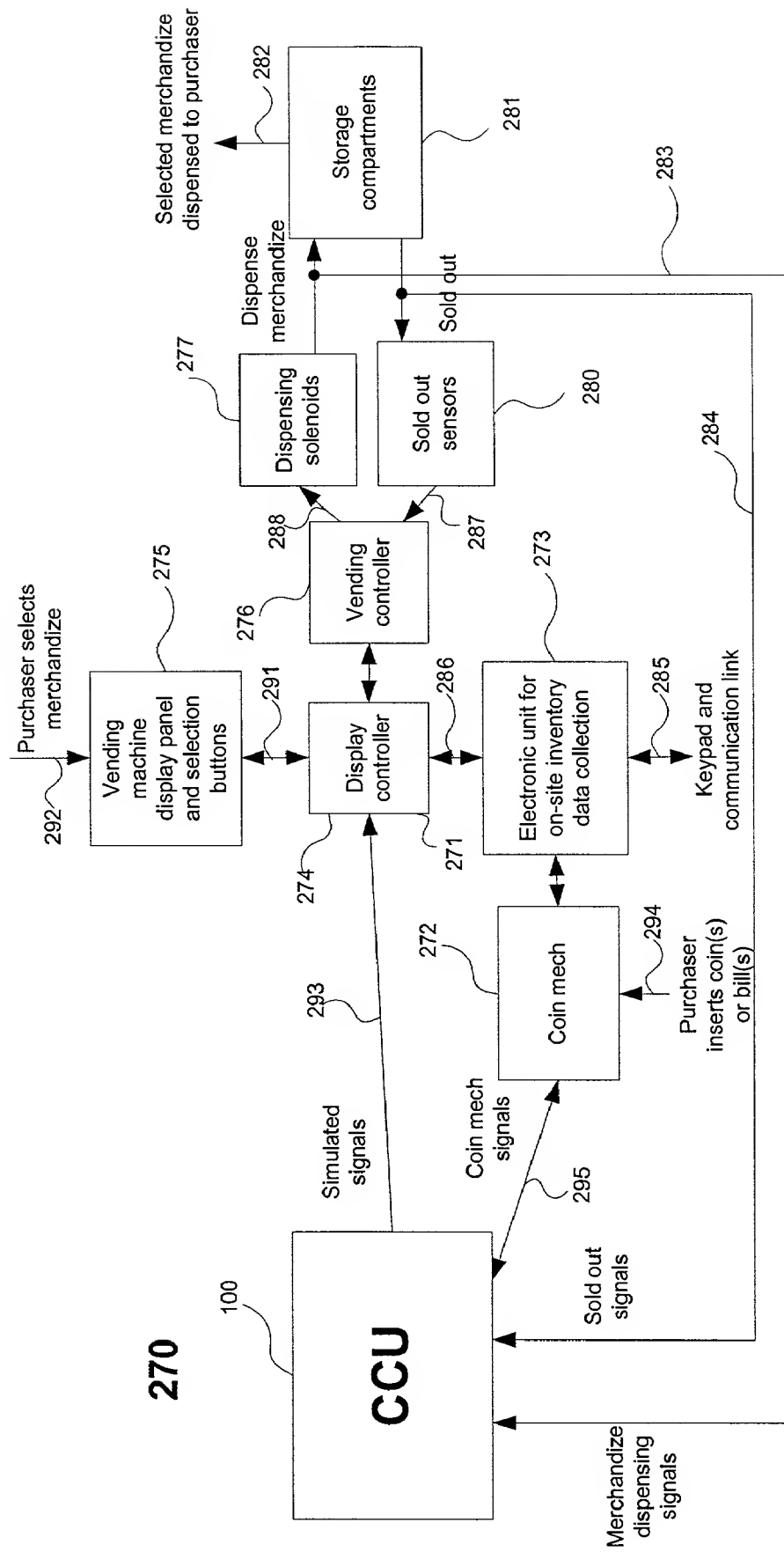


Fig. 9: Interfacing between the CCU and the vending machine of mechanical type



(a)

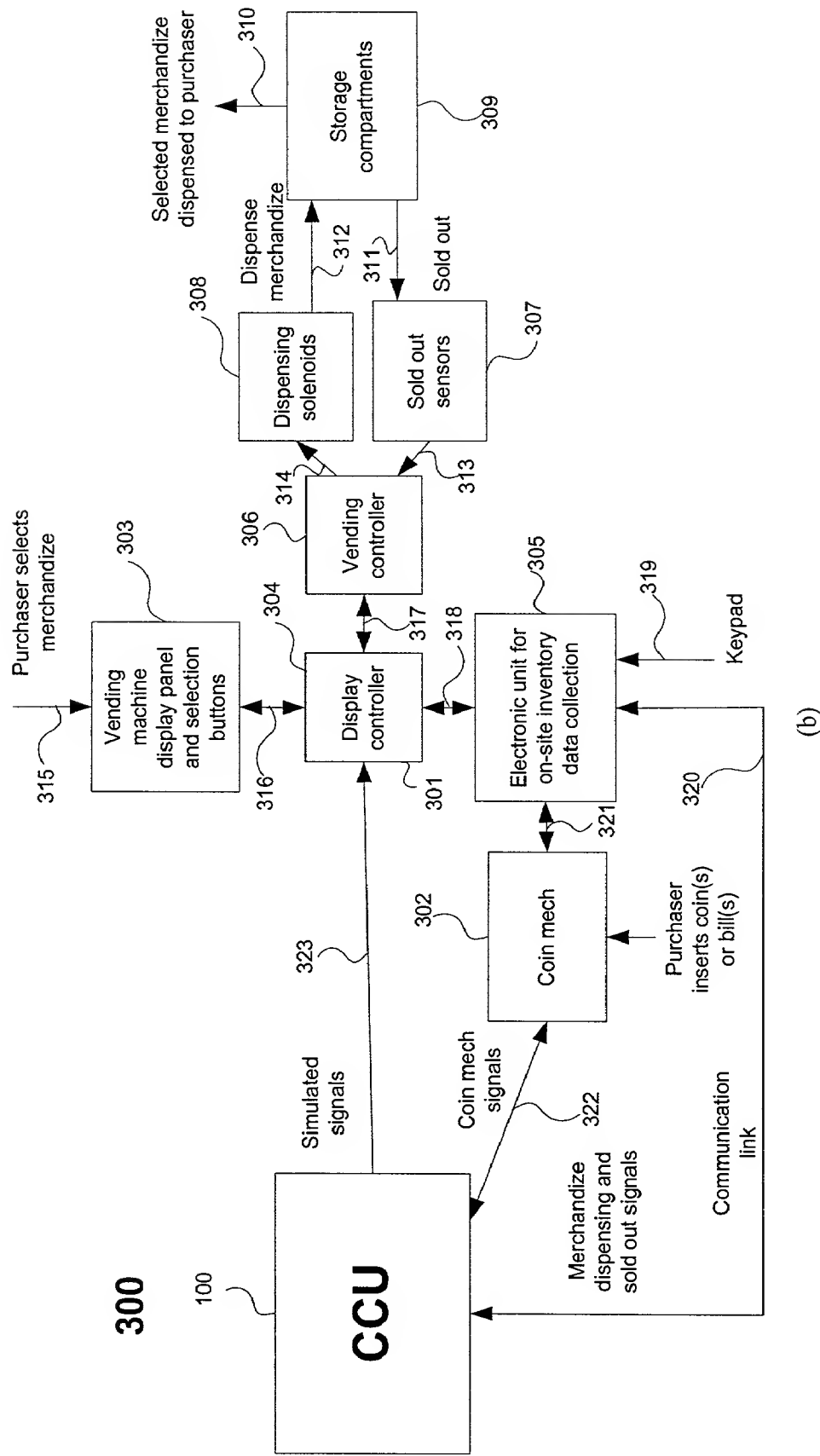


Fig. 10: Interfacing between the CCU and the vending machine of electronic type

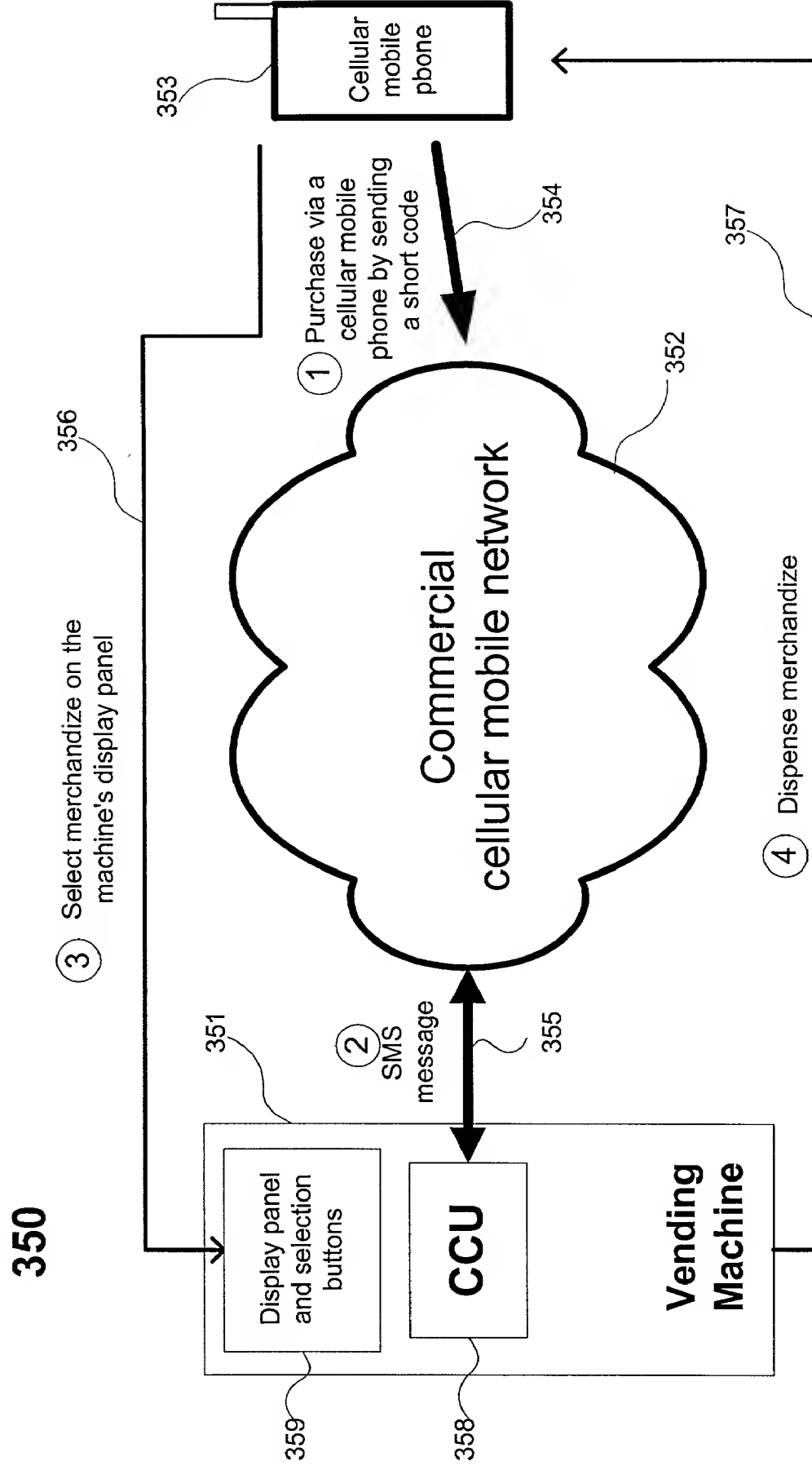
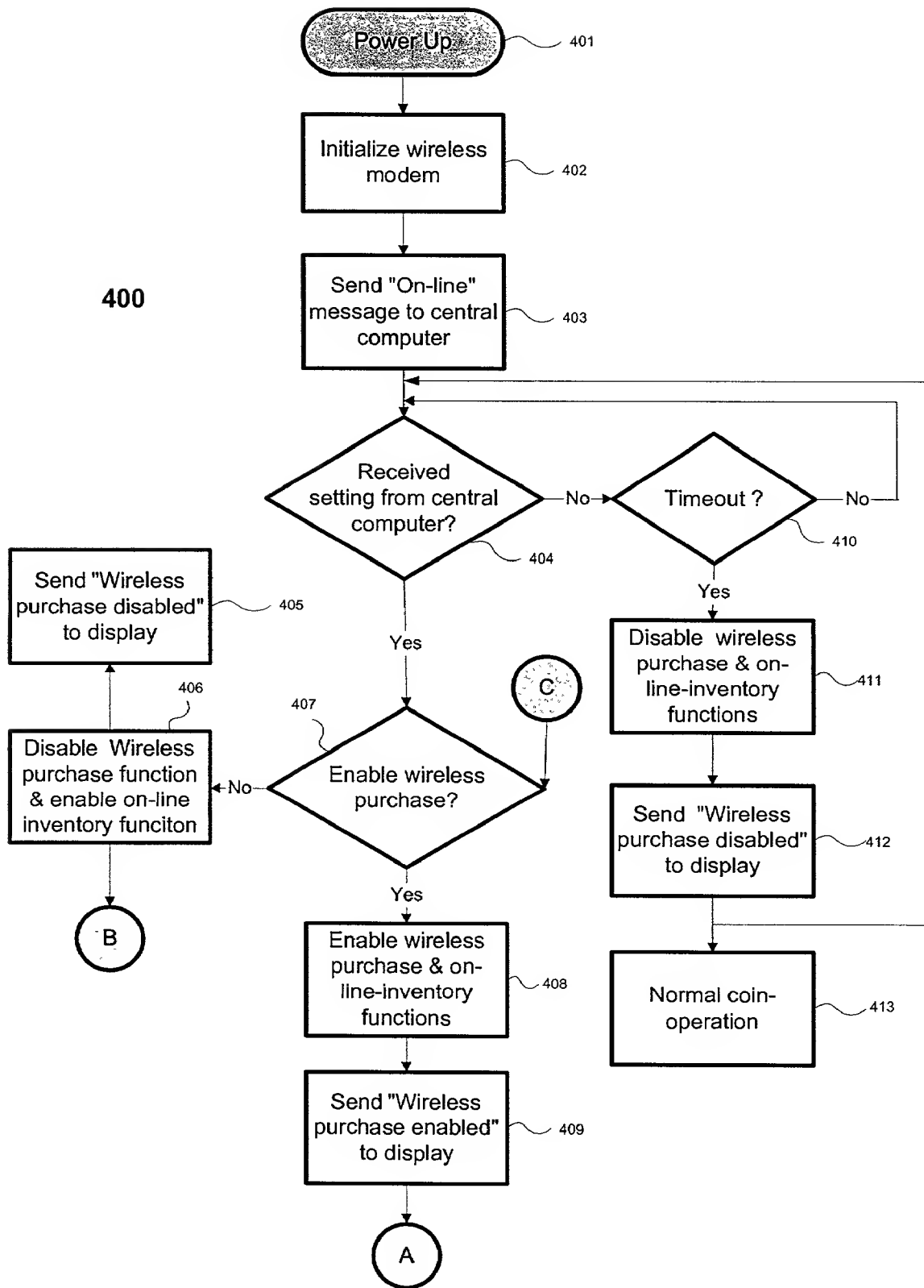


Fig. 11: Concept of wireless purchase through a cellular mobile phone



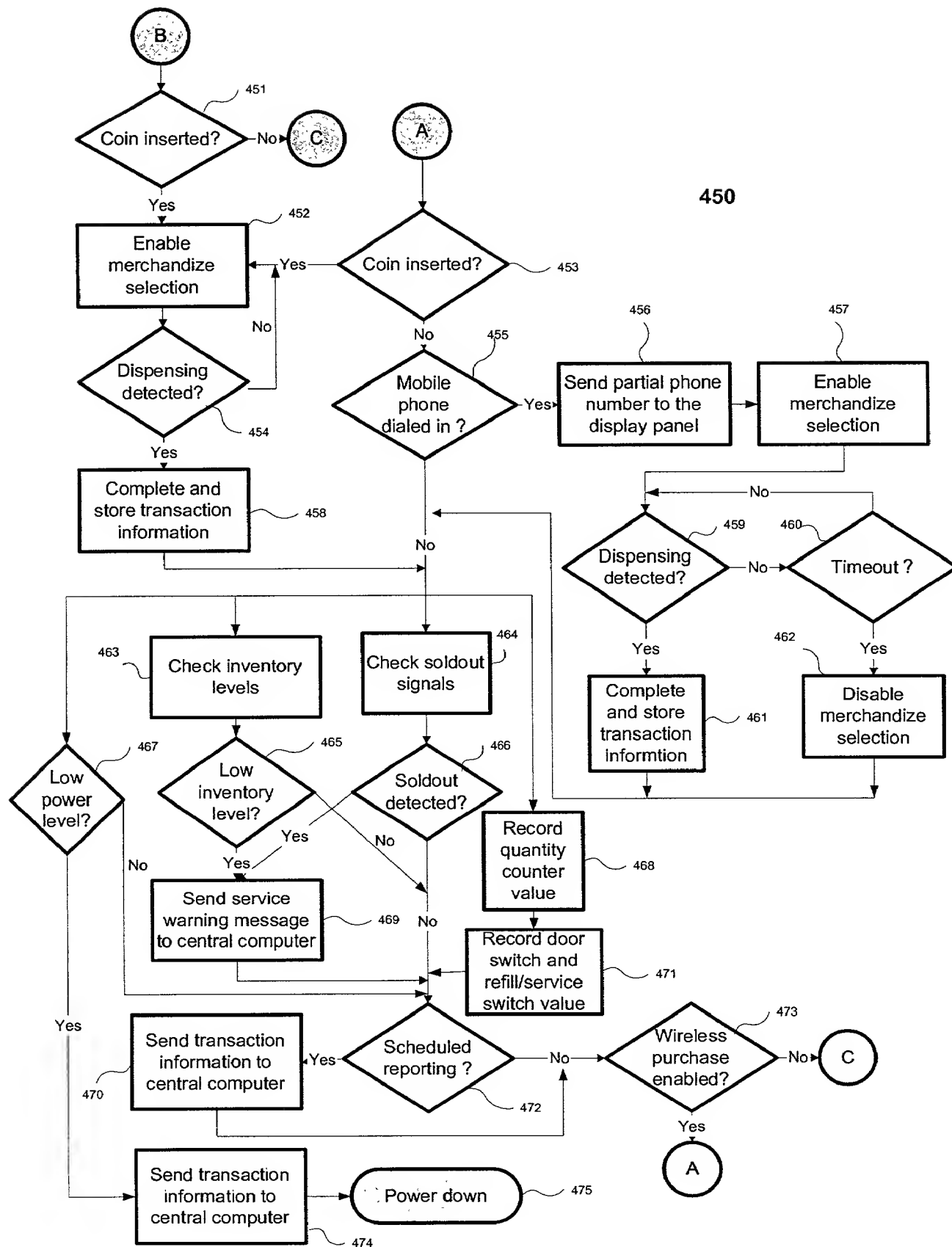


Fig. 12: Command and data flow of wireless purchase

FIG. 13 is a block diagram of an on-line inventory management configuration. The diagram shows a central cloud labeled "Commercial cellular mobile network" (372) connected to four "Vending Machine" units (371). Each vending machine unit contains a "Display panel and selection buttons" (371) and a "CCU" (371). Arrows labeled "Sales and inventory information per machine" (382) point from each vending machine to the network. The network is also connected to a "Central Control Computer" (374) via a "Fixed line or wireless modem" (373). The Central Control Computer is connected to an "On-line inventory database" (375) and an "Operator Server" (376). Arrows labeled "Control and Synchronization" (379) point between the Central Control Computer and the Operator Server. An arrow labeled "Sales and inventory information update" (381) points from the Central Control Computer to the On-line inventory database. An arrow labeled "On-line reporting" (380) points from the Central Control Computer to a monitor (377).

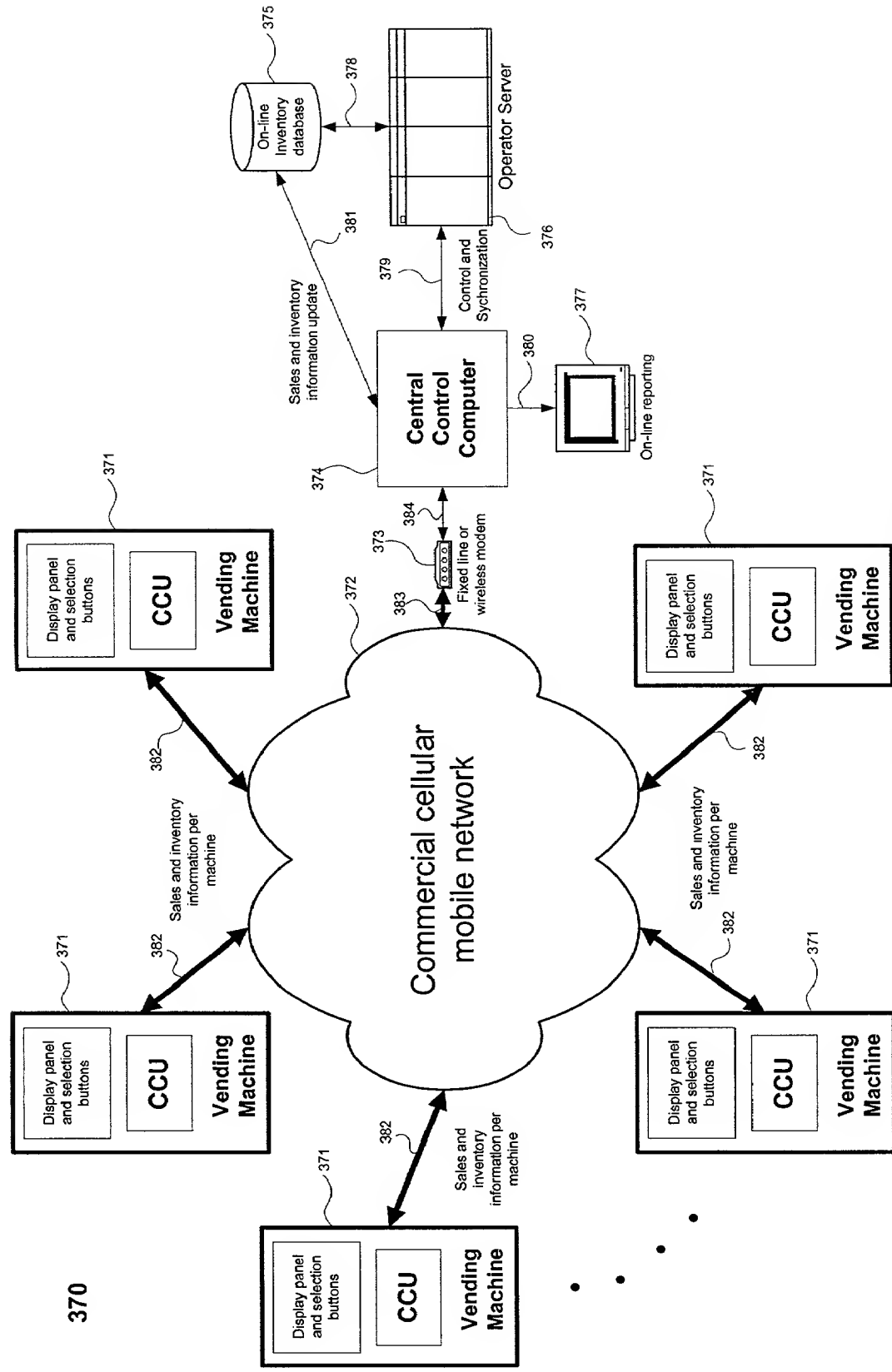


Fig. 13: On-line inventory management configuration

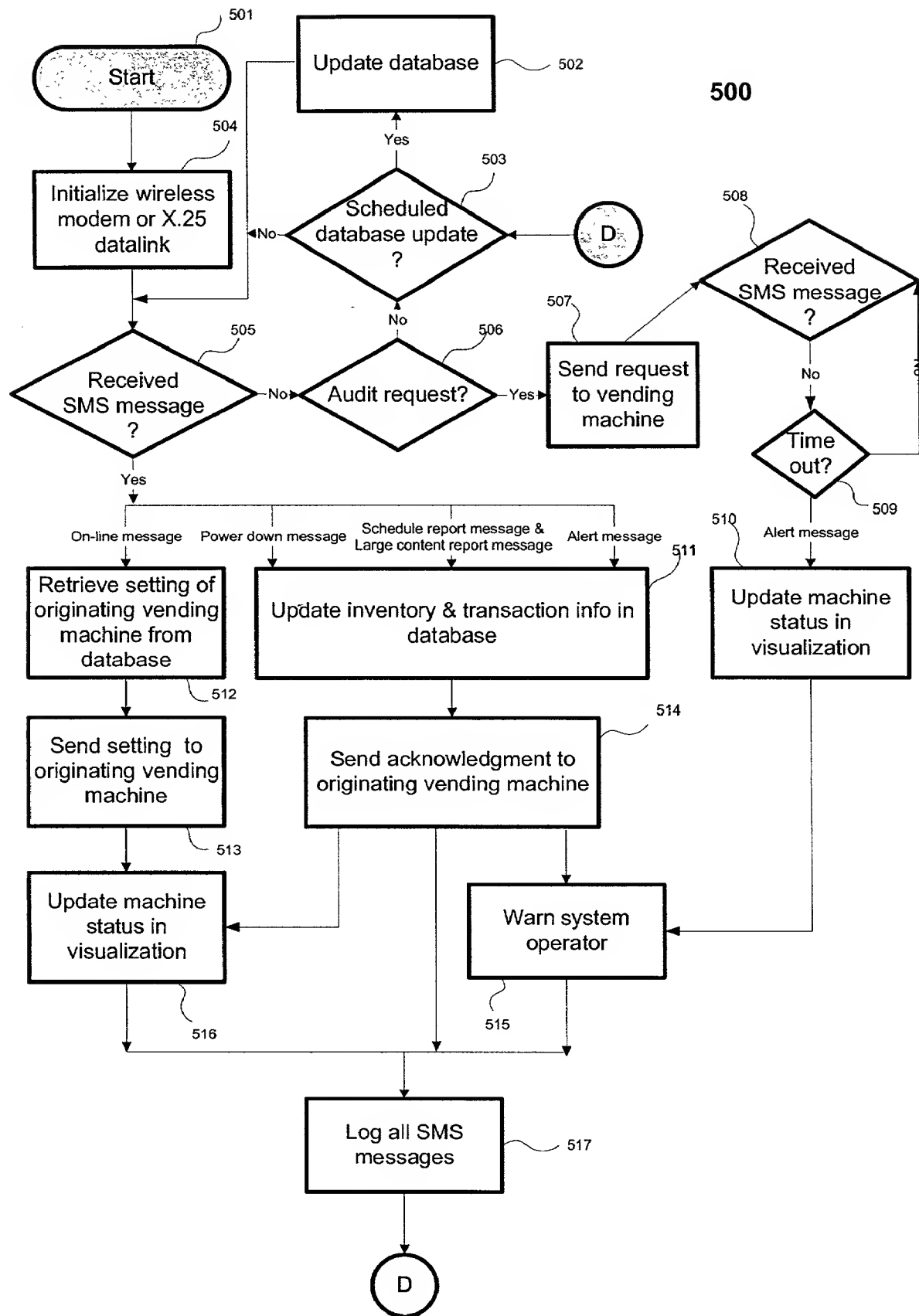


Fig. 14: Command and data flow of on-line inventory